

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/058478 A1

(51) International Patent Classification⁷: **B01J 19/00,**
C12Q 1/68

(21) International Application Number:
PCT/IB2004/052528

(22) International Filing Date:
24 November 2004 (24.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03104724.4 16 December 2003 (16.12.2003) EP

(71) Applicant (for all designated States except US): KONIN-
KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL];
Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): VAN BOMMEL,

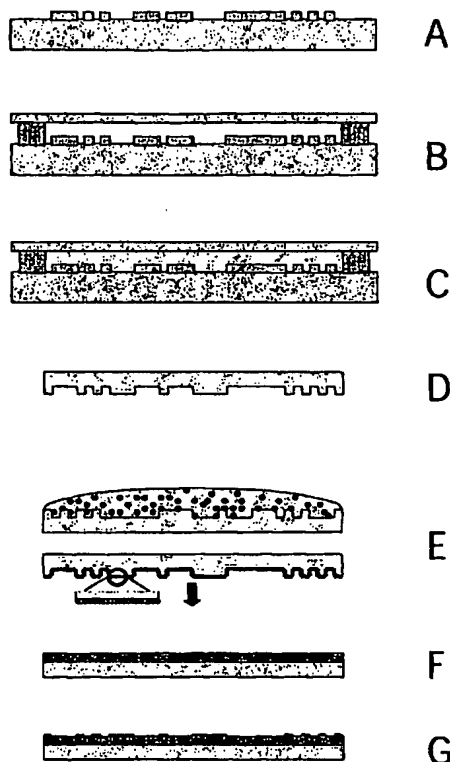
Ties [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eind-
hoven (NL). HIKMET, Rifat, A., M. [CY/NL]; c/o Prof.
Holstlaan 6, NL-5656 AA Eindhoven (NL). STAPERT,
Hendrik, R. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA
Eindhoven (NL).

(74) Agents: COHEN, Julius, S. et al.; Prof. Holstlaan 6,
NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

[Continued on next page]

(54) Title: MOLECULAR STAMP FOR PRINTING BIOMOLECULES ONTO A SUBSTRATE



(57) **Abstract:** The invention pertains to a molecular stamp for printing biomolecules onto a substrate comprising a hydrophilic polymeric gel and a patterned surface, characterized in that the gel has at least 20 % crosslink density. Preferably, the stamp comprises a gel which is obtainable by polymerizing at least one of a water soluble ethylenically unsaturated and/or epoxidated monomer containing at least one functional group selected from a hydroxyl, alkoxy, amine, alkyl substituted amine, carboxylic acid, carboxylic ester, carboxylic anhydride, carboxamide, isocyanate, carbamate, urethane, and urea group, in the presence of a polymerization initiator and optionally a chain transfer agent, and crosslinking the polymer with a crosslinker having at least two ethylenically unsaturated groups and/or epoxy groups.

WO 2005/058478 A1